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ABSTRACT

This booklet contains sample lessons and learning materials from the countries of Asia and Oceania for teaching population education in geography courses. The booklet is one of a series of six, each of which brings out population education concepts as part of a particular subject area. The subject areas treated in the other booklets are home economics, health, social studies, science, and math. The purpose of the series is to provide teachers, curriculum developers, and educators with useful tools for disseminating population education concepts in the school setting. The population programs in this booklet on geography are mainly from Indonesia, India, Malaysia, Pakistan, Philippines, Republic of Korea, Sri Lanka, Thailand, Fiji, and Papua New Guinea. In all these countries, population education concepts are integrated into various subject areas which are being taught in primary and secondary schools. There are two major parts to the booklet. The first part contains a scope and sequence chart of population education concepts consolidated from charts of the various countries. The chart indicates concepts, sub-concepts, objectives, and grade levels. The second part of the booklet contains illustrative samples of geography lessons. The population geographer is concerned with three areas: (1) simple description of the location of population members and characteristics, (2) the explanation of the spatial configurations of these numbers and characteristics, and (3) the geographic analysis of population phenomena or interrelations among areal differences in population. Sample lessons include the following exercises. In one exercise entitled "A Model of the School," students make a model of the school building in straw or cardboard. In another exercise, "School History," students research the history of their school and record the information on a diagram with a time line. In a third exercise, students examine the effects of spatial distribution and interaction on housing needs of people. (Author/RM)

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population education in GEOGRAPHY

some sample lessons

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NOTE TO THE READER

This collection of instructional materials is in response to a number of requests for sample lessons and learning materials on population education from around the world, most especially from the countries of Asia and Oceania. This increasing demand for actual lessons is a reflection of the stage that many national population education programmes in Asia and Oceania have now reached either in the curriculum or teaching stage or both. This collection of instructional materials is intended to provide teachers, curriculum developers and educators with useful tools for disseminating population education concepts in the school setting.

For faster adaptation and better application, this collection of population education lessons has been selected from current population education programmes in Asia and Oceania--mainly from Indonesia, India, Malaysia, Pakistan, Philippines, Republic of Korea, Sri Lanka and Thailand, and including Fiji and Papua New Guinea. In all these countries, population education concepts are integrated into various subject areas which are being taught in primary and secondary schools. Matrix A presents a listing of subject areas into which population education is integrated in countries having population education programmes.

For many curriculum developers and teachers, population education is a new area. For this reason and the fact that it needs to be taught with other subject areas because of its broad-based orientation, many in the field have expressed the need to develop more knowledge and skills in integrating the concepts into various subject areas such as social studies, science, biology, home economics, mathematics, health and others. Integrating population education into various subject areas is not as easy as it might seem. Although a number of content analyses of school textbooks have shown that some population education concepts already exist in these materials, they are there more by accident than by design. Furthermore, the need to show relationships between concepts under population education vis-a-vis the mother subject is neither implicitly or explicitly done in these textbooks. What is needed is a sharper focus on the actual techniques for making population education concepts part of a subject area. While it is also true that a number of materials have been developed which appear to demonstrate a structure for teaching population education, this structure often consists only of overall goals, generalizations and behavioural objectives on a very skeletal basis.

Organization of This Booklet

This booklet is one of six available in a set, each of which brings out population education concepts as part of a particular subject area. The six titles are:

1. Population education in home economics
2. Population education in health
3. Population education in social studies
4. Population education in science
5. Population education in mathematics
6. Population education in geography.

These subjects were selected because they form the basic areas of study in the educational system of any country. Since the contents which may be included in population education programmes will, quite naturally, vary with the maturity and needs of the students, these lessons are actually geared to different levels: lower to upper primary to middle school and high school. To provide the teachers with a detailed view of how population education concepts are integrated in each subject area, a scope and sequence is given as introduction and guide to each booklet. Each scope and sequence consists of a listing of concepts under which a number of sub-concepts, objectives and grade levels fall. This scope and sequence is consolidated from population education curricula of nine countries: Bangladesh, Indonesia, India, Malaysia, Pakistan, Philippines, Republic of Korea, Sri Lanka, and Thailand. In consolidating the various samples of scope and sequence of these nine countries, we found many instances where a particular sub-concept can appear under two related concepts. Some closely similar lessons are also being taught in different grades in various countries. The best that we could do in the first instance was to merge related concepts into one and in the second instance to state that a lesson designated for upper primary can also be useful for lower secondary and so forth.

The selection of sub-concepts to illustrate is based primarily on the availability of interesting and innovative lessons on that particular topic. You will see in the scope and sequence that only those sub-concepts which are illustrated with lessons are indicated by an asterisk (*). Each lesson contains a box which provides the user with initial information with regard to content, objectives, grade level, and the scope and sequence number. This number identifies the place of the lesson in the scope and sequence. Many different materials and lessons are included in this booklet. There are several short (about 30 to 45 minutes) lessons as well as a few complete units. Some are reproduced in their entirety and many adapted from the existing curriculum materials from the selected countries.

The lessons in this booklet are not intended to be comprehensive. They have, however, been selected to represent the broad concerns of this particular subject area. The Clearing House would appreciate feedback from the users regarding its use or non-use. Hopefully, these few lessons should generate more contributions from the Member States by providing us with actual lessons which they think can be of great use to other countries. With these few lessons serving as a springboard, we hope that teachers, trainers or curriculum developers will devise or add more lessons until the sub-concepts in each scope and sequence have been completely illustrated.

POPULATION EDUCATION IN GEOGRAPHY

Population education in geography deals with the ways in which the geographic character of places is formed by, and in turn reacts upon, a set of population phenomena that vary within it through both space and time as they follow their own behavioural laws, interacting one with another and with numerous non-demographic phenomena. 1/ The population geographer is concerned with three areas: (1) simple description of the location of population numbers and characteristics; (2) the explanation of the spatial configurations of these numbers and characteristics and (3) the geographic analysis of population phenomena or interrelations among areal differences in population.

Based on this definition and these concerns, population education concepts can easily be interwoven. The characteristics of population growth, movements and change in location are integral to the study of human geography. For instance the geographer or the population mapper is often faced with problems of the rapidity with which numbers and characteristics can and often do change and the impossibility of locating people precisely because an appreciable number of individuals migrate and many more oscillate daily, weekly or seasonally between places of work and residence. Birth, death and migration are not only the concern of the geographer because they exhibit areal changes in space, time and locality but are also reflections of environmental conditions.

Demographic factors are also directly affected by economic, social and cultural conditions. They are related to geographic studies of resource base, technology and resource use and cultural differentiation and interaction. The socially-determined population facts are exemplified by residence, occupation, place of work, family characteristics, housing characteristics, socio-economic class and income, literacy, educational status, place of birth, migrational history, ethnic group, religion, language and nationality.

Population education in geography does not only deal with spatial and physical variations but also with the economic and social consequences stemming from the interaction of a set of conditions existing in a given areal unit. Thus, while economic geography is concerned with the factors affecting the production of articles and commodities needed for food, clothing and shelter, commercial geography deals with the factors affecting the distribution of the products. However, in the production of commodities, man, being both the producer and consumer, tends to exploit the environment for his benefit. This leads to deterioration of environmental resources such as land, water, minerals, natural vegetation, raw materials which are often limited in developing countries. If the population of a country grows at an alarmingly fast rate the available resources fail to provide these resources. It is through the study of population change and geography that the problems of and prospects for man's use of earth resources and thereby man's role in affecting the earth surface can be clearly seen.

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1 Wilbur Zelinsky, *A prologue to population geography*. Foundation of Economic Geography Series, Prentice Hall, N.J. 1966.

6. POPULATION EDUCATION IN GEOGRAPHY

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Bangkok, THAILAND

VI. SCOPE AND SEQUENCE OF POPULATION EDUCATION CONCEPTS AS INTEGRATED INTO GEOGRAPHY SUBJECT: CONSOLIDATED FROM SCOPE AND SEQUENCE OF GEOGRAPHY SYLLABI OF SELECTED COUNTRIES FROM ASIA AND OCEANIA
(India, Fiji, Malaysia, Republic of Korea, Papua New Guinea)

CONCEPTS	SUB-CONCEPTS	OBJECTIVES	GRADE LEVEL			
			Elementary		Middle Level	High School
			Lower	Upper		
A. PHYSICAL BASIS OF GEOGRAPHY: FACTORS WHICH AFFECT DISTRIBUTION A. LAND B. WATER C. NATURAL VEGETATION	1. Proportion of land cultivated.* 2. Plains, plateaus, mountains. 3. Climate. 4. Deserts 5. Land-man ratio. 6. Water-man ratio. 7. Forest land. 8. Natural vegetation.	1. To become familiar with different types of climate, vegetation and land forms.	X			
		2. To identify location and physical characteristics of a country in terms of land forms, vegetation, rainfall, and others.		X	X	X
		3. To examine various kinds of environment or habitats by studying maps.		X	X	X
		4. To realize that the character of natural vegetation of a place depends on the soil and its interference by man.		X	X	X
		5. To study spatial organization by the use of the map.		X	X	X
B. GEOGRAPHIC FACTS/POPPULATION COMPOSITION AND GROWTH	1. Population growth.* 2. Death rate.* 3. Birth rate. 4. Migration. 5. Natural growth rate. 6. Pro and anti-natalist factors. 7. Pro and anti-mortality factors. 8. Composition (ethnic group)	1. To enable the pupil to understand the components of population growth in birth rate, death rate and migration.	X	X		
		2. To develop an understanding of the causes that lead to the rapid growth of population.	X	X		
		3. To acquaint the pupil with facts,			X	

CONCEPTS	SUB-CONCEPTS	OBJECTIVES	GRADE LEVEL			
			Elementary		Middle Level	High School
			Lower	Upper		
	9. Number. 10. Age/sex structure.	figures and trends of the population growth at local, state, national and international levels.				
C. SPATIAL DISTRIBUTION OR DISTRIBUTION OF POPULATION IN THE PROVINCES AND COUNTRIES, ASIA AND WORLD	1. Density in the villages, islands,* provinces, world, continent, region. 2. Characteristics of distribution. 3. Causes of uneven distribution. 4. Rural and urban distribution. 5. Factors that account for distribution. 6. Distribution of population and population growth by country, continents and the regions. 7. Main demographic features of Asia region. 8. Migration. 9. Importance of balanced population distribution by locality.	1. To develop understanding about trends of population growth by locality. 2. To develop understanding about the status of the world population distribution by region, and to realize the degree of over-population density. 3. To discover that population is unequally distributed. 4. To determine the reasons for unequal distribution. 5. To locate the areas of dense, moderate and sparse population, position of the main cities and towns.				X X X X X
D. SPATIAL INTERACTION OR MIGRATION AND URBANIZATION	1. Population movement and city problems.* 2. Concentration of rural population in cities. 3. Types of population concentration in cities. 4. Change of population distribution and migration. 5. Phenomena of population concentration in cities.	1. To develop understanding about the effect of pull factors of population migration on the destination of movement and number of migrants. 2. To develop understanding about the fact that the phenomena of population concentration in cities affects the composition and density of the population by locality.		X		X X

CONCEPTS	SUB-CONCEPTS	OBJECTIVES	GRADE LEVEL			
			Elementary		Middle Level	High School
			Lower	Upper		
	6. Interdependence of one village to a city or country to other countries.*	3. To emphasize that the links between one village to a city or a country to the world are but a very small part of a complex network of flows and linkages throughout the world and that as technologies improve and requirements grow, interdependence strengthens.				X
U. EFFECTS OF POPULATION GROWTH ON ENVIRONMENTAL AND NATURAL RESOURCES	1. Transformation of agriculture.* 2. Development of industry.* 3. The creation of networks of transport and communication. 4. The growth of towns and cities. 5. Increasing food-need and capacity of land to produce. 6. Availability of raw materials and forests. 7. Distribution of major minerals - iron, manganese and copper. 8. Sources of power and fuel. 9. Trends of increase in the consumption. 10. Relation between natural resources consumption and environmental pollution.* 11. Resource-shortages due to the rapid increase in population.* 12. Population growth and current status of demand and supply of food grain.	1. To give pupils experience in the techniques of study used by geographers in investigating the environment. 2. To develop understanding about the rapid increase in the consumption of resources and environmental pollution coming from over-population and to give chances to realize the necessity for the preservation of the natural environment. 3. To realize that developing countries have some common characteristics which influence per capita share of food and other resources. 4. To realize that replenishable power and mineral resources are exhausted at a rapid rate resulting in economic degeneration and dependence on imports in an over-populated country.			X X X X	X X X X

CONCEPTS	SUB-CONCEPTS	OBJECTIVES	GRADE LEVEL			
			Elementary		Middle Level	High School
			Lower	Upper		
	13. Inadequate transport facilities for rapidly growing population. 14. Land use and population.*	5. To realize that fast-growing population increases pressure on land and thus retards transport progress.			X	X
		6. To gain knowledge that careful conservation and expansion of forests due to ever-increasing pressure of population has a vital importance for a country.			X	X
		7. To realize that rapid growth of population is likely to disturb the balance in the conditions of nature.			X	X
		8. To develop a personal commitment to preserve and improve the environment.			X	X

CONTENT :	GEOGRAPHIC FACTS, POPULATION AND SPATIAL DISTRIBUTION OF A COMMUNITY
OBJECTIVES:	1. *To acquire accurate and objective information about the environment.* 2. *To develop an understanding of the interrelated processes operating in the environment.* 3. *To provide experience in the techniques of study used by geographers in investigating the environment.*
GRADE LEVEL:	LOWER PRIMARY
SCOPE & SEQUENCE NO.:	VI.A.1: VI.B.1; VI.B.2

Exercise 1

School Organization

A. Find answers to the following questions.
   1. How many teachers are there in the school?
   2. How many teachers are part-time?
   3. How many pupils are there?
   4. How many are boys? How many are girls?
   5. How many classes are there?
   6. How many pupils are there in each class?
   7. What ages are the pupils?
   8. How many pupils are there in each age group?
   9. How is the timetable made?
   10. Who looks after the school grounds and the school buildings?
   11. Who answers questions from parents and from the Education Department?
   12. Who is responsible for the teaching in the school?
   13. Who is responsible for the condition of the school buildings?
   14. What are the school rules?

B. Record your answers for your class display, either by making a series of diagrams or by writing in words.

C. Discuss answers to the following:
   1. What if there were only half the number of pupils in the school?
   2. What if two teachers were away ill for two months?
   3. What if there were no school rules?

Exercise 2

School Government

A. Find answers to the following questions:
   1. How many people form the committee which is responsible for the school?
   2. Where do the members come from?
   3. How did they become members of the school committee?
   4. Do they represent local groups?
   5. What does the school committee do? How often does it meet?
   6. Who pays for our books, desks, and things we use in school?
   7. Are there rules for the Committee?
   8. Who makes the Committee rules?

B. Record your information in a diagram for the class display.

C. Discuss answers to the following:
   1. What if there was no school committee?
   2. What if there was no water supply for the school?
   3. What if there were no books or desks?

Exercise 3

School History

A. Find answers to the following:
   1. What is the name of the school?
      Does it have a meaning?
      Is it the name of its founder?
   2. When was the school started?
   3. Has it always been where it is now?
   4. How big was it at first?
   5. How many pupils have passed through it since it started?
   6. How many teachers has it had?
   7. What changes have there been in the school buildings?

B. Record this information on a diagram – with a time-line – and perhaps by sketches.

C. Collect old photos and pictures taken during the history of the school. Are there any well-known stories about the school and its pupils? Has the school produced famous men and women? Can you name some of them?

Exercise 4

A Model of the School

Make a model in straw or cardboard of the school buildings. Use the map produced by the class.

1. Take a large sheet of card for the base. On it draw the outline of the compound: mark in gardens, hedges, trees and the outline of the school buildings from the map.
2. Construct a model of the buildings using glue, paper or straw. Paint or colour the parts accordingly, and take great care to mark in windows and doors of classrooms. Use sponge/rubber for trees and hedges, with twigs for tree trunks.
3. Be as neat and as accurate as you can. Put up your model for class display.

Exercise 5

Plotting on a Map.

(This is difficult for many young people!)

A. Find out where each person in your class lives.

B. Make a large-scale map showing the school and its local area:
   1. plot the place where each pupil lives.
   2. work out the average distance that pupils travel to school, by measuring the distance from home to school (with a piece of cotton thread). Add up all the distances and divide by the number of pupils to give you the average. Use the scale of the map to give miles and yards or kilometres.
   3. make a diagram (or tracing) of the school and pupils' homes from the map. On the diagram put a line round those who live furthest from school: this is a boundary line. With another colour mark three or four areas, within your boundary, where groups of pupils live.
   4. put up your diagrams for class display.

For your next lesson you will need to know a few things about your own house and that of your classmates.

1. the measurements of the house
2. the size of the land it is on
3. the number of bedrooms and other rooms and toilet/shower facilities
4. source of water and light
5. the materials the house is made up of
6. the number of people in the household
7. the number of persons per bedroom
8. the area per person in the house
9. other buildings around your house (sheds, garage etc.)
10. ownership of the building

Exercise 6

Houses and Settlement.

It is assumed that you have noted the things listed on the previous page about your own house and that you have noted the same features about the houses of your classmates. We have already made a map of the school. Now we want to see how the school is linked to the houses and nearby settlements.

1. Count the number of houses **EITHER** in your village **OR** within 1 kilometre of your school.
2. Can you draw a plan to show the school and where the houses are, and the roads?
3. How many people live in the houses altogether?
4. Are the houses all of the same type?
5. What other buildings are there in your village or within 1 kilometre of the school?
6. Can you make a drawing of some of the buildings?

Exercise 7

People and Work

1. Find out how many people live in your village or within 1 kilometre of your school.
2. How many children are there? How many are adults?
3. How many men? How many women?
4. What work do the men do?
5. What work do the women do?
6. Do any travel a long distance to work? How far?
7. Can you draw a life-space diagram of a worker who lives near your school?

Exercise 8

Community Services

A. Make enquiries about the following?

1. Is there electricity and a piped water supply to the houses near your school?
2. How is refuse and rubbish removed where you live?
3. Is there a regular bus service in your neighbourhood?
   IF so, how frequently does it run?
4. Is there a telephone service the public can use?
5. Is there a local doctor and a nurse or a clinic; a local policeman or police station; a local agricultural advisory officer?
6. Is there a co-operative for selling and marketing goods?
7. Is there a local council; a local church committee; a parent-teacher association; a women's club? or any other association?
   Find out when and where they meet and how many members there are.

B. Record your findings for class display.

Exercise 9

The Land

This is one of the most important things to consider when "Looking at Communities". The land affects what people may do in many ways.

A. Consider the following questions:

1. Is your school in hilly country? Or is it on flat land?
2. Is the school on high land? Does it have a good view over the surrounding countryside?
3. Is there room for your school to expand?
4. Is there a river nearby? Are there many streams near the school?
5. How do people use the land near the school? For buildings? For farming? Or is it left as forest and scrub?
6. Is there much flooding when it rains hard? If so where? Are there marshes nearby?
7. Is it easy to travel some distance from the school in any direction?
8. Can you think of ways of showing your information for others to see?

B. Discuss these questions in your group:

1. What if your school were on a small island? Record the group's opinion/s.
2. What if the land near your school were swampy? Record the groups opinion/s.

Exercise 10

Local History

A. **EITHER** Find out as much as you can about the past of your village, or the area where your school is.
When did people first live there?
Has the place a name? Does it have a meaning?
Has the village moved sites at all?
Are there any signs of former houses or settlements? Any fortifications, foundations of houses or ditches?

OR If you live in a town:

Find out when the town started,
Where were the first houses built?
Which streets were named first?
Which parts are the newer parts of the town?
Are the streets near your school named after famous people, or other places? Find out their meaning.

How many people have moved into your neighbourhood recently?
What are the important buildings and landmarks in your town? Can you sketch them and show the position on a map?

B. Record your findings in diagrams, or pictures or words for the class display.

Exercise 11

Links with other Communities

A. Make enquiries about the following:

1. Local bus services.
   Do buses pass your school?
   Where do they go to?
   How frequently do they run?
   How long does the journey take to the next village or town?
2. Is there a local market, or do people go to a nearby town?
   What day is market day(s)?
   How many people go to it from your area?
3. Have you, or your group, relatives who live in other places? Where are they?
   Can you draw on a map where your relatives now live?
4. Does your school play games against other schools? Where are the schools?
   Do you visit many other schools or villages yourself?

B. 1. Try to make a record in map or diagram form of these links you make between your community and other communities.
2. Are there any other ways in which your village or neighbourhood is linked to others? There are many: Can you think of them?

Excerpted from: Fiji. Ministry of Education, Youth and Sport. *Communities - social science 1.2; pupil's study book.* Suva, 1976, p. 20-30.

CONTENT :	EFFECTS OF SPATIAL DISTRIBUTION AND INTERACTION ON HOUSING NEEDS OF PEOPLE
OBJECTIVES:	*To develop an understanding of spatial variation in land values, community and social unit; that housing development requires an infrastructure; and that rehousing may break up pre-existing communities and create problems in dense areas.*
GRADE LEVEL:	HIGH SCHOOL
SCOPE & SEQUENCE NO.:	VI.C.1; VI.D.1; VI.E.4

Steps in Strategy:

The teacher poses the problems inherent in re-housing people, using local experience wherever possible. A check list of relevant considerations is provided. If possible, the teacher should invite an official from the local housing department. The teacher may also put to the class a set of probing questions to obtain a list of relevant considerations.

Information Provided:

A check list of relevant considerations with explanations and implications:

(a) Land is expensive in central city areas.
(b) Rehousing people in the same area involves finding them interim housing while their old houses are being demolished and new ones are being built.
(c) Land must be available for building.
(d) Homes should preferably be located fairly close to the residents' places of work.
(e) Transport facilities must be avilable for commuters.
(f) Traffic congestion should be avoided.
(g) Services - for example, shops, schools, entertainment - must be available.
(h) Rehousing people may mean the break-up of pre-existing social units.
(i) For high rise buildings consider:
    (i) facilities for young children
    (ii) movement of people in and out of buildings
    (iii) the possible increase of damage to communal property by vandals.

Evaluating Alternatives in Re-housing:

Teacher presents to pupils a table for evaluating the alternative re-housing locations and types for Singapore. (If necessary the teacher will explain the meaning of low rise and high rise buildings and satellite towns). The pupils insert in appropriate cells the considerations in part (4) which are relevant in that case; for

example, for high rise satellite towns the relevant factors might be (c), (e), (g), (h) and (i). Pupils then make oral evaluations of each case, attempting to rank the cells according to the numbers of difficulties which each presents.

Information Provided:

3 x 2 Matrix (Table No. 3)

ALTERNATIVES WITH PROBLEMS - NUMBERS:

Then the teacher presents pupils with figures showing: (see appendix a)

(a) the total number of people to be re-housed.
(b) what are regarded as being acceptable housing densities.

Pupils are then asked to make quantitative estimates of

(a) the size of housing estates required; and
(b) the area of land required.

Information Provided:

Figures for:

(a) Total number of people to be re-housed - 1975 and 1985.
(b) Acceptable housing densities in terms of persons per hectare.
(c) The number of people which can be housed in high rise flats and the land area required for high rise flats.
(d) The number of people which can be housed in low rise flats and the land area required for low rise flats. (All in Extract No. 6)

Appendix A

Population Statistics Required for Planning A Housing Estate

(a) Total number of people to be re-housed:

By 1972, 41.6% of the population of 2,400,000 (i.e. 998,400 people) were living in the new flats.

It is estimated that by 1975 just over 2,000,000 people will have been re-housed and by 1985 this figure could be as high as 2,850,000.

(b) Population densities:

The generally acceptable number of people per flat or unit is five. The number of units built per hectare is between 12 and 32, giving about 60 to 160 persons per hectare although, in some cases this rises above 200.

(c) High rise flats:

The following table, taken from actual cases, gives us some idea of densities and land areas required.

	Hectares	Flats	Population
Case 1	283	10,926	58,677
Case 2	251	14,568	72,840
Case 3	97	8,295	44,517

(d) Low rise flats:

Since these are not as tall as the high rise buildings they do not contain as many flats and as many people as the high rise blocks. This also means that to accommodate the same number of people, low rise blocks must occupy a larger area of land. In general, low rise blocks can house about one-quarter of the population in high rise blocks if they occupy the same area of land, that is, to accommodate a given population low rise blocks would require about four times as much land as high rise blocks.

Source: These figures are derived from information in *Annual Report, 1972*, Housing and Development Board, Singapore.

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CONTENT : INTERDEPENDENCE/SPATIAL INTERACTION/MIGRATION

OBJECTIVES:

1. *To reveal that one village or villages are dependent on others for goods and services.*
2. *To make clear that the services which a capital city's administrative headquarters and industrial and transport centre provide, penetrate all the villages; that it is in the city that the interests of all villages are brought together;*
3. *To emphasize that a country depends for some of its needs on distant areas, that it has markets in many countries, that tourists come from all continents, and that it is tied by telegraphy, telephone, radio, as well as by air and shipping services to the world's capitals such as Tokyo, Moscow, London, Auckland and Sydney.*
4. *To emphasize that the links that tie one into 'one world' are but a very small part of a complex network of flows and linkages throughout the world; and that as technologies improve and requirements grow, interdependence strengthens.*

GRADE LEVEL: HIGH SCHOOL

SCOPE & SEQUENCE NO.: VI.D.1 to VI.D.6

Information Required: The springboard of discussion is a district school in Fiji located in Dravo District.

LOCATION:

Dravo District School is situated 25 km east north east of Suva in Fiji, 6 km from the small town of Nausori which is at the bridging point on the Rewa River.

The school is about 3 km from the coastline of the Rewa river delta. It is sited on a small mound some 15 m above the flat delta land; the mound is approximately one hectare in extent, flat-topped, and was the site of an ancient Fijian fort. The road from Bau Landing to Nausori passes close by. Dravo district contains seven small Fijian villages and some scattered Indian settlements. The school is equidistant from the seven villages.

SOCIAL SETTING:

Approximately 95 per cent of the population in the district is Fijian. All the 333 pupils of Dravo District School are Fijian; 175 boys and 158 girls. There are eight classes in the school. All the teachers are Fijian; they have all had two years of teacher training. The top class, Class 8 (12-14 year old pupils), has 24 pupils. Their level of English is fair to poor; they prefer to talk in Fijian and do so on many occasions.

Lesson 1: Who goes to Suva?

1. Ask the pupils a sequence of questions, recording answers to each question on the blackboard.

   Who has been to Suva? How did you go? When did you go? (Day of week) What did you take with you? Why did you go?

   The information could be set out in the following way:

   Number of pupils in class _____
   Number of pupils who have been to Suva _____
   Day of week: Sunday _____
   Monday _____
   Tuesday _____
   Wednesday _____
   Thursday _____
   Friday _____
   Saturday _____
   Things taken with you 1. _____
   2. _____
   3. _____
   Reasons for going 1. _____
   2. _____
   3. _____
   How often (frequency)?
   Once a week _____ (number)
   Once a month _____ (number)
   Once a year _____ (number)

2. Work with the information by asking questions such as:

   Which pupils go often? What are the most common goods carried to Suva? Which days are most frequent for travelling to Suva? Which method of travel is most regular?

3. Ask the questions:

   How many pupils have parents or relatives who travel to Suva? Record the number on the blackboard.

   Why do they travel to Suva? Record the reasons on the blackboard.

4. Summarise with the class:

   The number of people going to Suva. How they travel. The frequency of travel. Which goods are taken. Reasons given for travelling to Suva.

5. Arrange a 'Bus Stop Survey'; give pupils a record sheet, and ask them before next lesson to interview passengers and the driver of the bus from Bau Landing to Nausori.

Lesson 2: Dravo to Suva

1. Collect information from 'Bus Stop Survey'. Heading: Buses going to Nausori and Suva. Below the heading rule up a copy of the Record Sheet using as much blackboard space as you can. Collect pupils' ideas from their survey and enter these on the blackboard record sheet.
2. Summarize the information gained from the 'Bus Stop Survey'. Show the: (a) numbers of people
   (b) types of goods
   (c) reasons for movement.
3. Suggest that pupils make a flow diagram, to scale, of people and goods moving from Dravo to Suva.

Lesson 3: Suva to Dravo

1. Ask the pupils two questions: Who comes from Suva to Dravo?
   What comes into Dravo from Suva and Nausori?
2. Use the information gained in the 'Bus Stop Survey'. Summarize pupils' contributions under: (a) numbers of people:
   (b) types of goods;
   (c) reasons for movement.
3. Suggest that pupils make a flow diagram of people and goods coming from Suva and Nausori to Dravo. Use the same scale as for the diagram in Lesson 2.
4. Encourage pupils to describe the flow diagram and to explain its importance to Dravo. Pupils should record the main ideas.
5. Summarize reasons for movement and introduce the idea of dependence of Dravo on Suva and Suva on Dravo.

Lesson 4: Interdependence (two-way dependence)

1. Ask questions: 'What would happen if....?' (no buses went to Suva; no goods went to Suva; etc.)
2. Encourage pupils to suggest that the exchanges and dependence are two-way: Dravo to Suva, and Suva to Dravo. Explain that this is called interdependence.
3. Imagine life in Dravo with (1) no links with Suva;
   (2) no large town nearby at all (no central place).
4. Ask: Why is interdependence important?
5. Ask pupils to record the meaning of the term interdependence and other important ideas from the lesson.

SECTION B: Links between Suva and the nation, Fiji. (Three lessons)

Lesson 1: Suva is important.

1. Ask: What is Suva like?
2. Take the class on an imaginary walk along the main street of Suva noting important buildings and their functions. Attention should be drawn to:

3. Consider the people (police, shop assistants, shoppers, bus drivers).

4. Build up on the blackboard a map of the main features of the land use and movements of goods and people.

   Take in: (4) outline map of Suva (Fig. 4)
   (5) pictures of the main street of Suva (Fig. 5 and Fig. 6).

Lesson 2: Why is Suva important?

1. Ask: Why do people come to Suva?

   Establish understandings of the many links between Suva and the rest of Fiji. Reference could be made to:

   bus, air, sea transport

   health services

   commerce - movement of goods

   tourism

   administrative links, e.g. government

   law and order

   Build up these ideas on the blackboard as they are contributed by the class.

2. Ask: What part does Suva play in the fuctioning of the whole country?

3. Collect pupils' ideas, clarify and develop them on the blackboard.

4. Pupils should record their answer to the question, Why is Suva important?

Lesson 3: Interdependence

1. Ask: How does Suva depend on the rest of Fiji? Record ideas on the blackboard.

2. Ask: How does Fiji depend on Suva? Record ideas on the blackboard.

3. Pupils should be encouraged to write sentences about the dependence of Suva on Fiji and Fiji on Suva.

4. Re-introduce the idea of interdependence and ask pupils to give some further examples.

   How does Suva depend on the rest of Fiji?
   How does Fiji depend on Suva?

SECTION C: Links between Fiji and the World (Three or four lessons)

Objectives: These lessons have been planned to encourage pupils to examine:

(1) The exchange of goods between Fiji and the rest of the world;
(2) The volume of flow between Fiji and the rest of the world.
(3) Interdependence of Fiji and the rest of the world.

Lesson 1: Travelling Overseas

1. Ask: In what ways are we dependent on other people and other places?

   In what ways are other people and other places dependent on us?

   Record pupils' ideas on the blackboard.

2. Ask: Has anyone been outside of Fiji? and/or Do you know anyone who has been outside of Fiji?

3. Ask: Where did you go? Where did he/she go?

   Where did you travel? Where did he/she travel?

   Record ideas on the blackboard. Refer to a political-physical wall map of the world.

4. Ask: Which Fiji citizens might travel abroad? Where? Why? The teacher should point out the location of the countries and cities mentioned during the lesson.

5. Pupils can shade in the areas of the world mentioned during the lesson and record the main ideas. Each pupil will need a suitable map of the world. e.g. an atlas map.

Lesson 2: Contacts with the outside world

1. Ask: Which people come to Fiji? Why do you think they come? Where do they come from? Plot on wall and desk maps.

2. Ask: What other contacts do we have with the outside world? Which goods are imported? The list will include cars, foodstuffs, medicines, building materials, and many others. Where do they come from? Why do we import them? Plot the information on wall and desk maps of the world.

3. Ask: What goods do we send overseas? The list will include sugar, copra, Yaqona and handicrafts. Why do we send them? Plot the information on wall and desk maps of the world.

4. Pupils should record examples of contacts with the outside world.

Lesson 3: Group work

1. Groups and/or individuals in the class should investigate one or more of the contacts (e.g. trade in sugar) more thoroughly using pictures, books and maps; perhaps questioning the local shopkeeper or some other knowledgeable person.

2. Discussion on the question: How do these links with the other countries help us? Write pupils' ideas on the blackboard. Pupils record ideas in their exercise books.

   Note: Lesson 3 could be extended in length to take the time of two lessons.

Teachers will need to supply support materials for individual and group investigation including trade pamphlets, extracts from reference books, and case studies on the topics specified in Lesson 2.

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CONTENT : LAND USE AND POPULATION

OBJECTIVES:
1. *Land is put to various uses in order to satisfy the basic needs of the man.*
2. *Land under cultivation in India is not increasing as rapidly as population.*
3. *Growth of population brings about changes in land use pattern.*
4. *People live on the land. Some areas are sparsely populated, others are densely populated.*
5. *Rapid population growth increases pressure on the land.*

GRADE LEVEL: HIGH SCHOOL

SCOPE & SEQUENCE NO.: VI.E.1; VI.E.2; VI.E.10; VI.E.11; VI.E.14

Skills and Abilities

The pupil will develop the skill:

1. To collect the data about land use and population.
2. To represent the data in visual forms like line graphs or bar graphs or pictorial graphs.
3. To prepare maps and diagrams showing land use and population.
4. To observe and understand wise use of the land.

Attitudes

1. To develop an appreciation of the relation between land use and population density.
2. To develop an appreciation of the proper use of the land in relation to local environment and national needs.
3. To develop an appreciation of the urgent need for taking appropriate measures for reducing the rate of growth of population and increasing production.
4. To develop an appreciation of the need for cooperative efforts for bringing about the desirable changes.

Activities

Students may be asked

1. to collect data pertaining to the local population and land use from the office of the local authorities like Gram Panchayat, Local Board, Patwari, Patel or Tehsil Office.
2. to survey the local area in respect of land use, size of the family and the total population in the locality.
3. to plot the data so collected on the graph paper in the form of line or bar graphs.

4. to study and compare half a dozen families holding agricultural land, under the following heads:

   a. Size of the family.
   b. Size of the holdings in their possession.
   c. Annual income from the land.

5. to select six families from a town to study the area of their houses, width of their lanes and number of family members to find out the per capita living space available.

Teaching Aids

1. Census atlas of India: Registrar General's office.
2. Agricultural Atlas of India, IXAR, New Delhi.
3. National Atlas of India, Survey of India.
4. Wall maps showing population distribution and major land uses in India.

EVALUATION

Strike the most appropriate

1. Study of Land use is the study of

   a. the various methods of using land of our country.
   b. the various uses to which the same piece of land is put.
   c. the various techniques of classifying the land.
   d. the various devices of knowing wise use of the land.
   e. the various combinations of land put under use.

2. Tick the correct ending for the following statement:

   With the present rate of growth of population, the total population of India will be almost doubled after -

   a. 10 years
   b. 18 years
   c. 20 years
   d. 30 years
   e. 50 years

3. Below are given some statements, write (F) for false and (T) for true against each of the following:

   With the increase in population -
   a. There would be more pressure on agricultural land.
   b. The employment opportunities will increase.
   c. The articles of daily use would be cheaper.
   d. Standard of living will also increase.

4. Study the table given on the next page carefully and do the following:

   (i) Work out pressure per hectare on crop land.

   (ii) Plot the crop area and population figures on graph paper in the form of line and bar graphs.

State	Crop Area in Millions of hectares	Population in Millions	Pressure per hectare on Cropland
Andhra Pradesh	12.5	43.4	
Assam	3.0	15.0	
Bihar	10.9	56.3	
Gujarat	10.4	27.7	
Haryana	4.0	20.0	
Jammu and Kashmir	0.8	4.6	
Kerala	2.9	21.3	
Madhya Pradesh	20.0	41.7	
Maharashtra	19.4	50.3	
Karnataka	10.6	29.3	
Orissa	7.4	21.9	
Punjab	5.3	13.5	
Rajasthan	14.3	25.7	
Tamilnadu	6.9	41.1	
Uttar Pradesh	22.4	88.4	
West Bengal	6.7	44.4	

5. On an outline map of India -

   (a) Show the pressure of population on agricultural land by using different shades.

   (b) Show the distribution of population by dot method.

6. Answer the following questions:

   a. Which state has the largest area under crops?
   b. Which state has the smallest area under crops?
   c. Which state ranks first in population?
   d. Which state has the lowest rank in population?
   e. Which state has the highest pressure of population on land?
   f. Which state has the lowest pressure of population on land?
   g. Why is the pressure of population on land highest in Kerala and lowest in Rajasthan?

Excerpted from: India. National Council of Educational Research and Training. *Population education in classrooms*, ed. by N. Anantapadmanabhan and Ramesh Chandra. New Delhi, 1978, p. 56, 60-63.